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PHOTOGRAPHIC INTERPRETATION REPORT



**REVIETMENT MEASUREMENTS,  
SELECTED SAM  
INSTALLATIONS, USSR**

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# REVTMENT MEASUREMENTS, SELECTED SAM INSTALLATIONS, USSR

This report was prepared in response to CIA requirement C-RR4-82,129, which requested mensural data on missile revetments at representative SA-2 and SA-3 surface-to-air missile (SAM) sites and at the Tallinn AMM/SAM Launch Complex. In addition to supplying this information, the present report provides revetment measurements for the Leningrad Northwest AMM/SAM Complex.\* All mensural data is presented in Figures 1-5.

The measurements herein should be considered accurate to within plus-or-minus 5 percent or 5 feet, whichever is greater. Additionally, the user of this report should take into consideration several factors which made reliable measurement of the revetments difficult: Many of the revetments are not well defined on the photography because of poor imagery and slight tonal contrast; some of the revetment walls have no precisely definable corners; many revetments have irregular shapes which do not conform to easily measurable geometrical figures; and several revetments are in intermediate construction stages and therefore their bases are obscured and hard to measure.

It should also be noted that generally the revetments could not be drawn to scale without slight distortion of the way they appear on photography, a difficulty caused by differences in the photo interpreter's and the photogrammetrist's methods of viewing and interpreting photographic images. In Figures 1-5, the revetments have been drawn as they appear to the interpreter rather than strictly in accordance with the measurements derived.

The SA-2 site used for the study was Vladivostok SAM Site D25-2, which is depicted in Figure 1. The closest unprotected building

to a launch position at the site is 500 feet from the position and is at least partially shielded from it by a missile-hold revetment; the launch position is 335 feet from the outside edge of the hold revetment.

The SA-3 site used for the study was Leningrad SAM Site D32-3 (Figure 2). Height measurements could not be obtained because of the difficulty of determining heights in a heavily wooded area such as that around Leningrad. It would seem logical that the heights of launch revetments at this site would be similar to those of revetments at SA-2 sites. The building revetment is quite large and is probably higher than the launch revetments.

Because of the varying construction stages of launch positions at the Tallinn complex as it appears on photography used for this report, discrepancies are apparent in the widths of the revetments (Figures 3 and 4). To facilitate an understanding of the differences, a table (Table 1) showing the status of each position (as observed on [redacted])

[redacted] has been reprinted from an earlier report. 2/ Four revetments which most characterize those seen at the complex are shown in Figure 3; the revetment at the far left in this graphic occurs most frequently at the complex.

The distance between launch positions at the Leningrad Northwest AMM/SAM Complex 3/ (Figure 5) is approximately 185 feet, except for that between the positions adjacent to revetments numbered 1 and 7 at each of the sites, which is from 300 to 310 feet. The widths of 2 of the revetments could not be determined, and neither widths nor lengths for 2 others were obtainable from the photography used. The average height of the revetments is 25 feet, the heights ranging from [redacted]

\*The referenced requirement also requested mensural data for the unidentified activity at Moscow SA-1 SAM sites. This data was supplied in NPIC R-5144 64. 1

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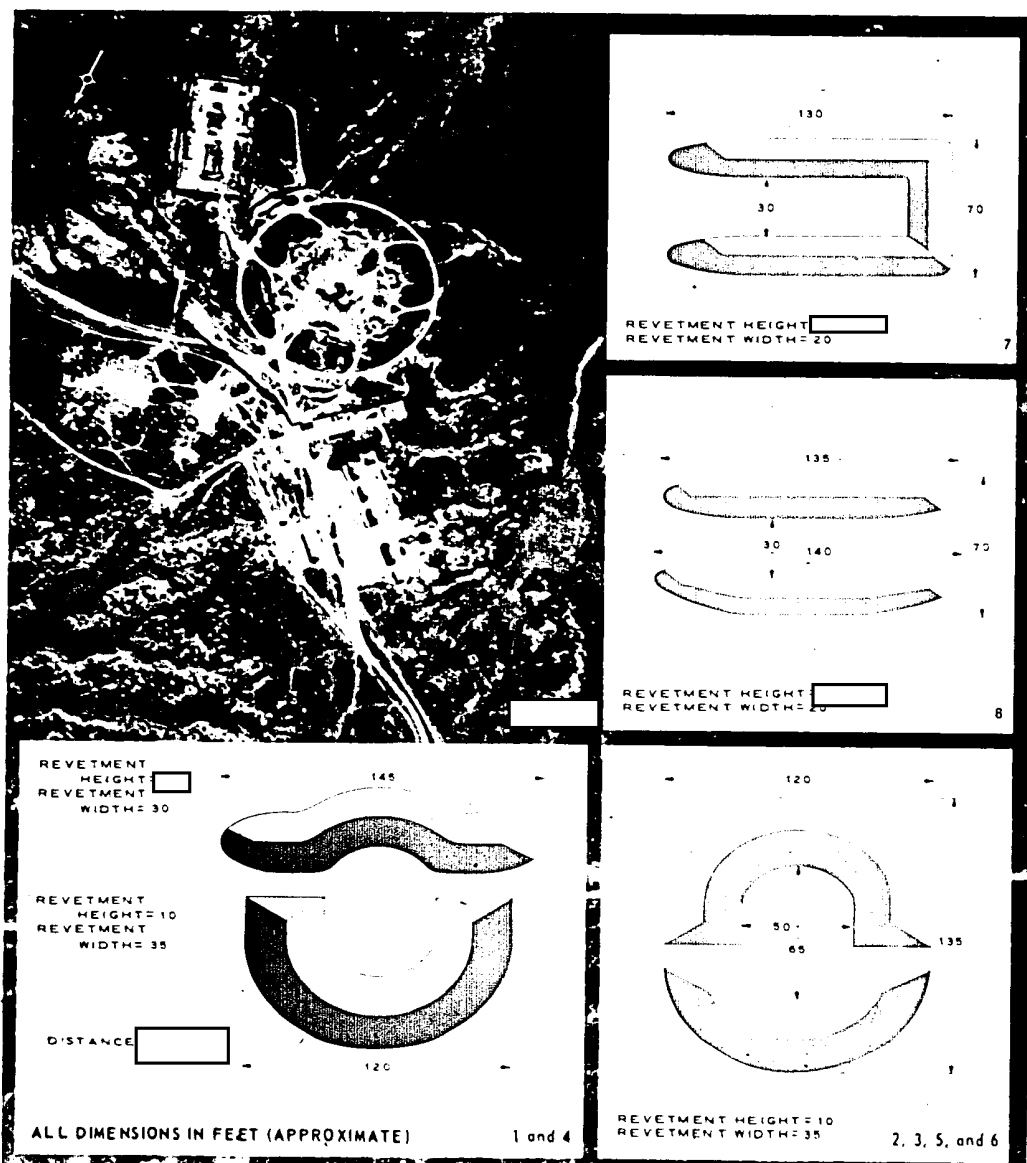


FIGURE 1. REVETMENT MEASUREMENTS, VLADIVOSTOK SAM SITE D25-2.

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FIGURE 2. REVETMENT MEASUREMENTS, LENINGRAD SAM SITE D32-3.

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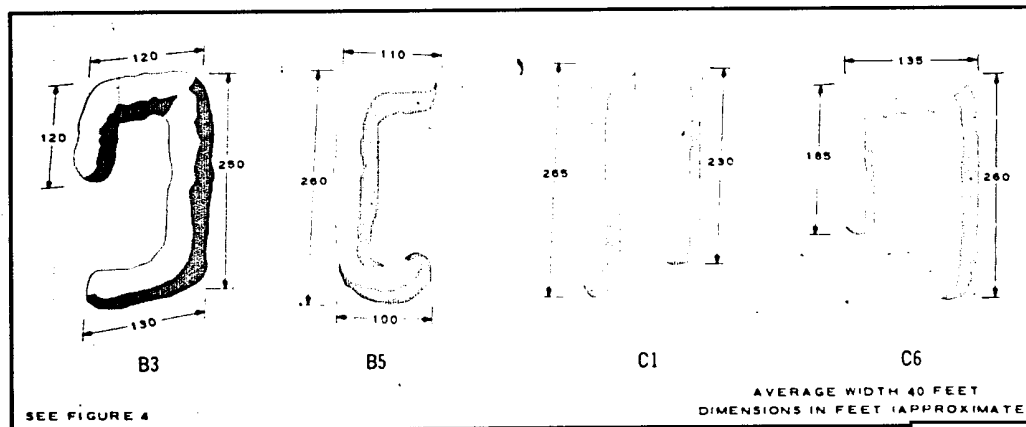


FIGURE 3. MEASUREMENTS OF SELECTED REVETMENTS, TALLINN AMM SAM LAUNCH COMPLEX.

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FIGURE 4. TALLINN AMM SAM LAUNCH COMPLEX

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Table 1. Tallinn AMM SAM Complex, Status of Launch Positions as Observed on [redacted] Photography

Launch Positions	Revetment Wall	Revetment Covering	Launch Pad Surface	Excavation at End of Pad	Remarks
<u>Launch Site A</u>					
Launch Position 1	Erected	Incomplete	Smooth, light tone	Circular	Revetment opposite open side prob u/c Revetment opposite open side not constructed Revetment opposite open side not constructed Revetment opposite open side not constructed Revetment opposite open side not constructed
Launch Position 2	Erected*	Nearly complete	Smooth, tone varies	Circular	
Launch Position 3	Erected*	Nearly complete	Varied tone	Not discernible, u/i objects in area	
Launch Position 4	Erected*	Incomplete	Grading appears incomplete	Not discernible, u/i objects in area	
Launch Position 5	Erected*	Incomplete	Smooth, light tone	Disturbed earth, u/i objects in area	
Launch Position 6	Erected	Nearly complete	Smooth, light tone, piles of dark material at one end	Square	
<u>Launch Site B</u>					
Launch Position 1	Erected	Incomplete	Rough, light tone, piles of dark material along edges	Circular, prominent adjacent pile of earth	Opening cut through end revetment
Launch Position 2	Erected*	Incomplete	Rough, light tone, piles of dark material along one edge	Circular	Revetment opposite open side not discernible
Launch Position 3	Erected*	Incomplete	Smooth, light tone, piles of dark material at one corner	Circular	Revetment opposite open side not discernible
Launch Position 4	Erected*	Nearly complete	Relatively smooth, varied tone	Circular	Revetment opposite open side not discernible
Launch Position 5	Erected*	Incomplete	Smooth, light tone	Square	Revetment opposite open side not discernible
Launch Position 6	Erected	Incomplete	Rough, light tone, piles of dark material along edges	Square	
<u>Launch Site C</u>					
Launch Position 1	Erected*	Incomplete	Prob smooth, varied tone	Circular	End revetment & one opposite other end of position are incomplete
Launch Position 2	Erected	Incomplete	Relatively smooth, light tone, ridge extends along base of side revetment	Square	

\*See Remarks.

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Table 1. (Continued)

Launch Positions	Revetment Wall	Revetment Covering	Launch Pad Surface	Excavation at End of Pad	Remarks
Launch Position 3	Erected	Incomplete	Smooth, light tone	Square	Opening cut in side revetment
Launch Position 4	Erected	Incomplete	Smooth, medium tone	Square	
Launch Position 5	Erected	Incomplete	Smooth, medium tone	Large, rectangular dark image	
Launch Position 6	Erected*	Incomplete	Relatively smooth, medium tone	Circular	Opening cut in side revetment
<u>Launch Site D</u>					
Launch Position 1	Erected*	Incomplete	Rough, light tone, piles of dark material along edges	Circular	End revetment missing
Launch Position 2	Erected	Incomplete	Relatively smooth, light tone	Circular	Revetment opposite open side of position not discernible
Launch Position 3	Erected	Early stage	Relatively smooth, piles of material along one edge	Circular	Revetment opposite open side of position not discernible
Launch Position 4	Erected	Early stage	Rough, light tone, scattered piles of material	Circular	Revetment opposite open side of position not discernible
Launch Position 5	Erected	Early stage	Smooth, light tone	Circular	Revetment opposite open side of position incomplete
Launch Position 6	Erected*	Incomplete	Appears smooth, medium tone	Circular	End revetment missing
<u>Launch Site E</u>					
Launch Position 1	Erected*	Early stage	Rough, mottled appearance, varied tone	Square	Opening in end revetment. Revetment opposite open end of position not discernible
Launch Position 2	Erected	Early stage	Rough, mottled appearance, varied tone	Square	Revetment opposite open side of position missing
Launch Position 3	Erected	Early stage	Rough, mottled appearance, varied tone	Round	Revetment opposite open side of position incomplete
Launch Position 4	Erected	Early stage	Rough, mottled appearance, varied tone	Not discernible, earth disturbed	Revetment opposite open side of position incomplete
Launch Position 5	Erected	Early stage	Rough, mottled appearance, varied tone	Square	Revetment opposite open side of position incomplete
Launch Position 6	Erected	Early stage	Rough, mottled appearance, varied tone	Round	End revetment and, one opposite open end missing

\*See Remarks.

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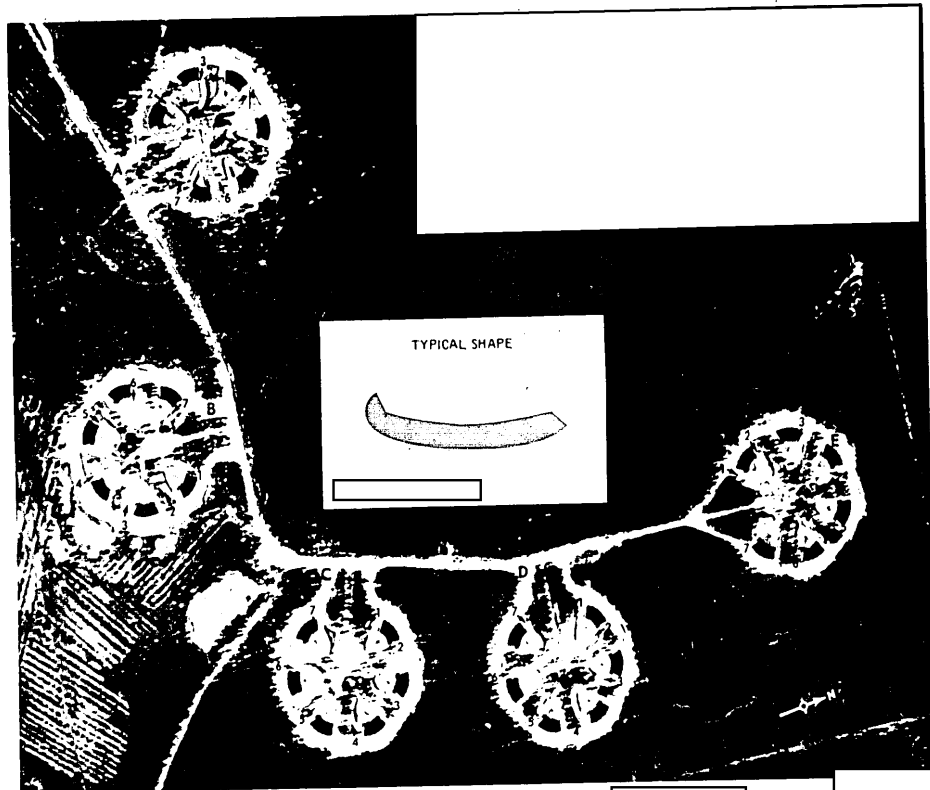


FIGURE 5. LENINGRAD NORTHWEST AMM SAM COMPLEX

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REFERENCES

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MAPS OR CHARTS

ACIC. US Air Target Chart, Series 200, Sheet 0103-25HL, 3d ed, Jun 62, scale 1:200,000 (SECRET)

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DOCUMENTS

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1. NPIC. R-5144 '64, *Activity at SA-J SAM Sites, Moscow, USSR* [redacted] Dec 64 (TOP SECRET [redacted])

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2. NPIC. R-652 '64, *Tallinn AMM SAM Launch Complex and Cherepovets Suspect AMM SAM Launch Complex, USSR*, Sep 64 (TOP SECRET [redacted])

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3. NPIC. R-704 '64, *Northwest Probable Antimissile Missile Launch Complex, Leningrad, USSR*, Aug 64 (TOP SECRET [redacted])

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REQUIREMENT

CIA. C-RR4-62,129

NPIC PROJECT

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